

Katayoon DEHESH *et al.*
Appln. No. 09/591,279

38. (New) The amino acid sequence of claim 30, wherein said engineered β -Ketoacyl-acyl carrier protein synthase II protein has an alanine to methionine mutation in the amino acid corresponding to amino acid 193 of SEQ ID NO: 47.

Remarks

Support for the foregoing new claims and amendments may be found throughout the specification, and in the original claims, and specifically at page 6, line 8, and pages 7 and 8. No new matter is added by way of these amendments. Upon entry of the foregoing amendment, claims 4-7 and 28-38 will be pending.

Applicants note that SEQ ID NO: 38, which represents an *E. coli* KAS II protein, was originally disclosed in Figure 12 and Figure 1. The Examiner has indicated that Figure 12, which comprises five drawing sheets, was originally filed without the second sheet. The portion of the *E. coli* KAS II protein sequence represented by the second sheet of Figure 12 was also disclosed in the *E. coli* KAS II protein sequence originally disclosed in Figure 1.

Applicants also note that the original filing receipt indicates that 113 drawing sheets were received by the PTO. The full set of figures, including figure 12-2, consists of 113 drawing sheets.¹

Applicants further note that the amino acid numbering that appears throughout the specification for the *E. coli* KAS II protein of the present application differs from that given in SEQ ID NO: 38 in that SEQ ID NO: 38 includes an N-terminus methionine. Figure 12 discloses a methionine and serine at the N-terminus of *E. coli* KAS II protein. Figure 1 discloses the amino acid sequence of *E. coli* KAS II protein minus the methionine residuc. The nomenclature utilized in Figure 1 and throughout the specification localizes the position of *E. coli* KAS II

¹ Applicants note that footnote one of the Supplemental Amendment submitted on April 16, 2002 indicates that "the Official Filing Receipt and date-stamped postcard indicate that 113 sheets of drawings were originally filed" Applicants wish to bring the Examiner's attention to the fact that the New Patent Application Transmittal sheets and a Confirmation of Receipt postcard (copies attached with this filing), both of which accompanied the original filing on June 9, 2000, rather than the stamped postcard, referenced the 113 sheets of drawings. Applicants wish to further note that the undersigned's file copy is missing figures 3, 5, and 12-2.

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protein residues relative to an *E. coli* KAS II protein sequence that omits the initial methionine residue. An amended sequence listing named KASII.txt, created on October 28, 2002 and of size 109,895 bytes is submitted herewith to reflect this. SEQ ID NO: 47 sets forth the *E. coli* KAS II protein lacking the N-terminus methionine residue. No new matter is thereby introduced.

1. Oath/Declaration

The Examiner has objected to the oath or declaration as defective. Applicants have submitted herewith a substitute declaration.

2. Claim Rejections, 35 USC § 112, Second Paragraph

The Examiner has rejected claims 4-12 and 17-27 under 35 U.S.C. § 112, second paragraph as unclear due to the lack of a reference KAS polypeptide. While Applicants do not agree with this rejection, Applicants have amended the claims to refer to a reference KAS polypeptide in order to facilitate prosecution.

The Examiner has rejected claims 17-27 for recitation of "alteration of the hydrophobic binding pocket." While Applicants do not agree with this rejection, Applicants have cancelled claims 17-27 in order to facilitate prosecution.

3. Claim Rejections, 35 USC § 112, First Paragraph

Claims 4-12 and 17-27 stand rejected under 35 USC § 112, First Paragraph. The Examiner argues that the rejected claims are not enabled and lack written description support. While applicants do not agree with the rejection, the claims have been amended to facilitate prosecution. It is believed that the amended claims and newly added claims conform to the suggestions made by the Examiner during the interview held on September 9, 2002. Applicants further believe that the pending claims are fully enabled and described.

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4. Claim Rejections, 35 USC § 103

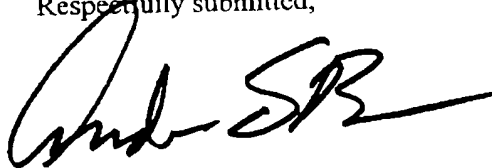
Claims 8-9 stand rejected as obvious over Huang in view of Edwards. Claims 8-10 stand rejected as obvious over Moche in view of Edwards. While Applicants do not agree with this rejection, Applicants have cancelled claims 8-10 in order to facilitate prosecution.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Should the Examiner have any questions regarding this application, the Examiner is encouraged to contact Applicants' undersigned representative at (202) 942-5085.

Respectfully submitted,



David R. Marsh (Reg. No. 41,408)
Andrew S. Brenc (Reg. No. 45,534)

DATE: October 28, 2002

ARNOLD & PORTER
555 Twelfth Street, N.W.
Washington, D.C. 20004-1206
(202) 942-5000 telephone
(202) 942-5999 facsimile

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Version with markings to show changes made

IN THE CLAIMS:

4. (Twice Amended) An amino acid sequence of an engineered β -Ketoacyl-acyl carrier protein synthase II protein wherein said amino acid sequence of said engineered β -Ketoacyl-acyl carrier protein synthase II protein has at least one substitution, insertion or deletion of at least one amino acid residue at a position corresponding to residue 111, 114, 133, 134, 138, 162, 193, or 197 of SEQ ID NO: 47 [of an amino acid sequence of a native β -Ketoacyl-acyl carrier protein synthase], and wherein said engineered β -Ketoacyl-acyl carrier protein synthase II protein has an altered substrate specificity compared to an enzyme having the amino acid sequence of SEQ ID NO: 47 [said native β -Ketoacyl-acyl carrier protein synthase protein].
5. (Twice Amended) The amino acid sequence of claim 4, wherein said [native] β -Ketoacyl-acyl carrier protein synthase II protein is obtained from a prokaryotic source.
6. (Twice Amended) The amino acid sequence of claim 4, wherein said [native] β -Ketoacyl-acyl carrier protein synthase II protein is obtained from *Escherichia coli*.
7. (Twice Amended) The amino acid sequence of claim 4, wherein said [native] β -Ketoacyl-acyl carrier protein synthase II protein is obtained from a plant source.